

Attachment 3

Risk Management Viewpoint (Prepared by CalPERS Risk Management/Asset Allocation Unit).

Objective: To estimate the effect of implementing an actively managed currency portfolio on the risk of the CalPERS total fund and the international equity asset class.

Summary Conclusion: An internally managed active currency portfolio of the initial size proposed would have essentially no effect on the forecasted total risk and active risk of the fund or the asset class. Because this proposal only allows for an incremental increase in the amount of foreign currencies hedged back to the US dollar, the overall exposure of the fund to foreign currencies can only be reduced. If the program were to be substantially extended, the currency risk within the fund would be reduced, and thus the total risk of the fund could decline.

Methodology: The current passive currency overlay strategy and benchmark were held constant, and an additional currency overlay portfolio was added to the fund in the test cases. The changes due to the new portfolio were configured within the context of the actual CalPERS holdings as of February 28, 2006 and run through the Barra TotalRisk model and CalPERS Risk Measurement System. A new portfolio hedge of 0% is represented by Baseline in the tables below. If the portfolio were to be implemented at a 100% hedge, this would be considered a neutral, passive strategy equivalent to the existing benchmark, and thus increase the current exposure to the US dollar by \$100 million, and decrease foreign currency exposure by the same. This is shown below as the \$100 million test case. The new portfolio was also tested at the potential extreme of the 200% hedge, which would be the equivalent of hedging \$200 million in foreign currencies back to the US dollar, which is shown as the \$200 million example below. It was assumed that the currencies were hedged proportionate to the FTSE Developed World ex US, the benchmark the passive currency portfolios are managed to. This proposal was also tested as if it was increased to a \$500 million portfolio, and the overlay was maximized at 200%. This would reduce the fund's foreign currency exposure by \$1 billion. The new portfolio was also tested assuming a specific currency bet. In this case, the new portfolio increased exposure to the Japanese Yen by 25% of the new portfolio, and correspondingly reduced the new portfolio's exposure to the Euro by 25%. The remaining currencies were assumed to be neutral to the benchmark.

Results:

Active Hedge of All Currencies. The values presented in the tables below represent the forecasted annual standard deviation of returns (%) over the next twelve months. Because of the size of the CalPERS total fund, and the diversification of investments within the total fund and within the global equity portfolio, adding the proposed active currency portfolio is estimated to have virtually

no impact to the Fund's total risk profile. The total risk of the total plan is generally determined by asset class weightings, which are assumed to not change with the adoption of this proposal. The current passive currency overlay program hedges up to 33% of the passive international equity accounts, which currently translates to an approximate \$9.5 billion hedge on a \$28 billion portfolio. Thus a \$100 million change to a \$9.5 billion hedge will have almost no impact on fund risk, as shown in the first table below. Assuming the maximum 200% hedge of the proposed portfolio, would also have no impact to risk.

If the overlay were to increase to \$1 billion, thus potentially affecting over 10% of the passive currency hedge, then a slight impact of a 1 basis point reduction to total fund total risk is projected. Because the passive currency overlay managers are currently hedged less than the benchmark, an increase in the US dollar hedge by this new portfolio would move the portfolio closer to the benchmark, and active risk would decrease. The \$1 billion overlay could potentially reduce the total risk of the international equity asset class by 6 basis points.

Currency Specific Hedge. If the portfolio manager were to select specific currencies to hedge at the proposed \$100 million portfolio size, again there would be no impact to risk, as shown in the second table below. This scenario takes an active bet of going long the Yen and short the Euro in relationship to the benchmark's underlying currency exposure. In the test case for the \$100 million portfolio, it was assumed the fund's exposure to the Yen would increase by \$25 million and exposure to the Euro would decrease by \$25 million. Nearly 5% of the current \$208 billion total fund is invested in Japanese securities, or about a \$10.3 billion exposure to the Yen. Thus, a \$25 million increase in Yen exposure will have a minimal impact on fund risk. If the currency specific hedge overlay were to expand to \$1 billion, and the manager maximized its exposure to the Yen, it would only increase exposure to the Yen by \$250 million, or 1% of the fund's current exposure to the Yen. The potential increase in the fund's total risk and active risk as a result is estimated to be about 1 basis point.

Active Hedge of All Currencies Proportionate to FTSE Developed World

PROGRAM SIZE	\$100 Million			\$500 Million
	Baseline (0% Hedge or \$0 Million)	(100% Hedge or \$100 Million)	(200% Hedge or \$200 Million)	(200% hedge or \$1 billion)
TOTAL FUND				
Total Risk	7.99	7.99	7.99	7.98
Active Risk	0.761	0.761	0.761	0.757
INTERNATIONAL EQUITY				
Total Risk	11.48	11.47	11.47	11.42
Active Risk	0.583	0.58	0.578	0.54

Currency Specific Hedge – Maximize Yen Exposure, Reduced Euro Exposure

PROGRAM SIZE	\$100 Million			\$500 Million
	Baseline (0% Hedge or \$0 Million)	(100% Hedge or \$100 Million)	(200% Hedge or \$200 Million)	(200% hedge or \$1 billion)
TOTAL FUND				
Total Risk	7.99	7.99	7.99	8.00
Active Risk	0.761	0.761	0.761	0.78
INTERNATIONAL EQUITY				
Total Risk	11.48	11.48	11.48	11.48
Active Risk	0.583	0.583	0.584	0.59